

CLAIMS

1. A control and safety system for a gas oven, said gas oven comprising a gas burner and said system comprising:
 - 5 oven operating means for a user to regulate the operation of said oven;
 - flame sensor means for detecting the presence of a flame in the burner;
 - a gas valve for opening or closing the supply of gas to the burner;
 - 10 an ignition module for igniting the flame in the burner;
 - an electronic controller which receives a first signal from the operating means representative of the user regulation, and a second signal from the flame sensor means representative of the existence of a flame, said electronic controller acting, in accordance with said first and second signals, on the gas valve and on the ignition module; and
 - 20 gas flow regulating means that regulate the gas outflow to the burner in accordance with the temperature in the oven and a selected temperature, so that the electronic controller does not need to close the gas valve each time that the temperature in the oven is greater than the selected temperature and does not need to open the gas valve and act on the ignition module each time that the temperature in the oven is below the selected temperature.
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- 30 2. A control and safety system for a gas oven according to claim 1, wherein the gas flow regulating means comprise a gas thermostat.
3. A control and safety system for a gas oven according

to claim 2, wherein the operating means comprise a knob which regulates the gas thermostat, the temperature of the oven being selected using said knob and activating, at that time, a switch, the first signal being 5 representative of the status of said switch, and producing through said electronic controller, if said switch is activated, the opening of the gas valve and the activation of the ignition module.

10 4. A control and safety system for a gas oven according to claim 3, wherein, once a safety period has passed after activating the switch, the electronic controller closes the gas valve if there is no flame, the system remaining shut-down and, if there is a flame, said 15 electronic controller maintains the gas valve open throughout the cooking process in normal operating mode.

20 5. A control and safety system for a gas oven according to claim 4, wherein, after igniting the oven, the electronic controller makes the ignition module initiate the re-ignition of the flame in the burner if it detects the absence of a flame.

25 6. A control and safety system for a gas oven according to claim 5, wherein the electronic controller closes the gas valve and shuts down the system if, after detecting the absence of a flame and initiating the re-ignition, there is still no flame present.

30 7. A control and safety system for a gas oven according to claim 6, wherein, with the system shut-down, the electronic controller opens the gas valve and activates the ignition module to attempt the re-ignition, closing the gas valve and shutting down the system if, after the

re-ignition, there is still no flame present.

8. A control and safety system for a gas oven according to claim 7, wherein the electronic controller closes the
5 gas valve if said gas valve is still open once the maximum preset cooking time has passed.

9. A control and safety system for gas ovens according to claim 2, the operating means comprising a knob which
10 regulates the gas thermostat, the temperature of the oven being selected using said knob and activating, at that time, a switch, and said operating means also comprising a timer wherein the user sets the cooking time, said timer receiving a signal representative of the status of
15 the switch, the signal the electronic controller receives from the operating means being the output signal of said timer, the electronic controller acting in accordance with a starting time and a finishing time, and the starting time or the finishing time, or both the starting
20 time and the finishing time being set in said timer.

10. A control and safety system for a gas oven according to claim 1, wherein the gas flow regulating means are controlled by the electronic controller in accordance
25 with a signal representative of the temperature of the oven that said electronic controller receives.

11. A control and safety system for a gas oven according to claim 1, wherein the electronic controller checks its
30 own status, closing the gas valve if it detects any anomaly.

12. A control and safety system for a gas oven according to claim 1, the system further comprising viewing means

that permit the user to know the status of the oven.